

## WWW Table of Neutron Capture Gammas

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The new WWW Table of Neutron Capture Gammas is now available at <http://ie.lbl.gov/PGAA/PGAASearch.asp>. This service provides searchable access to thermal neutron capture data evaluated as part of a Coordinated Research Project for the Development of a Database for Prompt Gamma-ray Neutron Activation Analysis sponsored by the International Atomic Energy Agency (IAEA)<sup>1</sup>. The capture gamma data can be searched by atomic number, neutron number, mass, gamma-ray energies, elemental or isotopic cross sections,  $k_0$ , and half-life for activation gamma rays. The capture gamma data have been stored in a Microsoft Access database, and the connection between the database

and the Web server is Open DataBase Connectivity (ODBC). Output pages can be produced in a flexible way (high data awareness) by means of Active Server Pages (ASP). Figure 1 shows the isotopic data for Z=6 (carbon), and Figure 2 shows the gamma rays from  $^{12}\text{C}(\text{n},\gamma)$ .

<sup>1</sup> R.B. Firestone, H.D. Choi, R.M. Lindstrom, G.L. Molnar, S.F. Mughabghab, R. Paviotti-Corcuera, Zs. Revay, V. Zerkin, and C.M. Zhou, *Database of Prompt Gamma Rays from Slow neutron Capture for Elemental Analysis*, International Atomic Energy Agency TECDOC, in press (2003).

<b>Isotopic Data</b>					
<b>Carbon (Z = 6)</b>					
<b>Atomic Weight = 12.0107 8</b>					
<b>Elemental Cross Section = 0.00351 5 b</b>					
Z	Isotope	Abundance(%)	$S_0$	g-factor	Number of Gammas
6	$^{12}\text{C}$	98.93 8	0.00353 5 b	1	6
6	$^{13}\text{C}$	1.07 8	0.00137 4 b	0.998	7

Figure 1. HTML table of isotopic data for carbon.

<b>Gamma-ray search and A=12; and Z=6;</b>				
Z	Target	Type <sup>*</sup>	Eg (keV)	PGAA $k_0$
6	$^{12}\text{C}$	p	595.015 9	2.40E-06 10
6	$^{12}\text{C}$	p	1261.765 9	0.000313 8
6	$^{12}\text{C}$	p	1856.717 9	1.56E-06 10
6	$^{12}\text{C}$	p	3089.057 9	4.16E-06 20
6	$^{12}\text{C}$	p	3683.920 9	0.000308 8
6	$^{12}\text{C}$	p	4945.301 3	0.000659 13

<sup>\*</sup> p=Prompt, d=Decay Gamma

Figure 2. Gamma rays from  $^{12}\text{C}(\text{n},\gamma)$